

Indiana State Department of Health COVID-19 Strategies for Optimizing PPE and RE-USE

Supplies of N95 respirators and other supplies can become depleted when in high demand. [Existing CDC guidelines](#) recommend a combination of approaches to conserve supplies while safeguarding healthcare providers (HCPs).

Existing Guidelines Recommended for Healthcare Facilities

- **Minimize the number of HCPs who need to use PPE**
 - Have a minimum number of individuals care for patient and exclude HCPs not directly involved in patient care
 - Limit the number of individuals (e.g., students) seeing and rounding on the patient
- **Minimize the number of times HCPs who need to use PPE interact with the patient**
 - Consider batching procedures to limit face-to-face encounters
- **Use alternatives to N95 respirators** (e.g., other classes of filtering face piece respirators, elastomeric half-mask and full face piece air-purifying respirators, powered air-purifying respirators and facemasks) **when feasible.**
- **Implement practices allowing extended use and/or limited reuse of N95 respirators, when acceptable**
- **Prioritize the use of N95 respirators for those HCPs at the [highest risk of acquiring infection](#) or of experiencing complications of infection.** More info: [What Healthcare Personnel Should Know about Caring for Patients with COVID-19](#)

WHO NEEDS N95 MASKS?

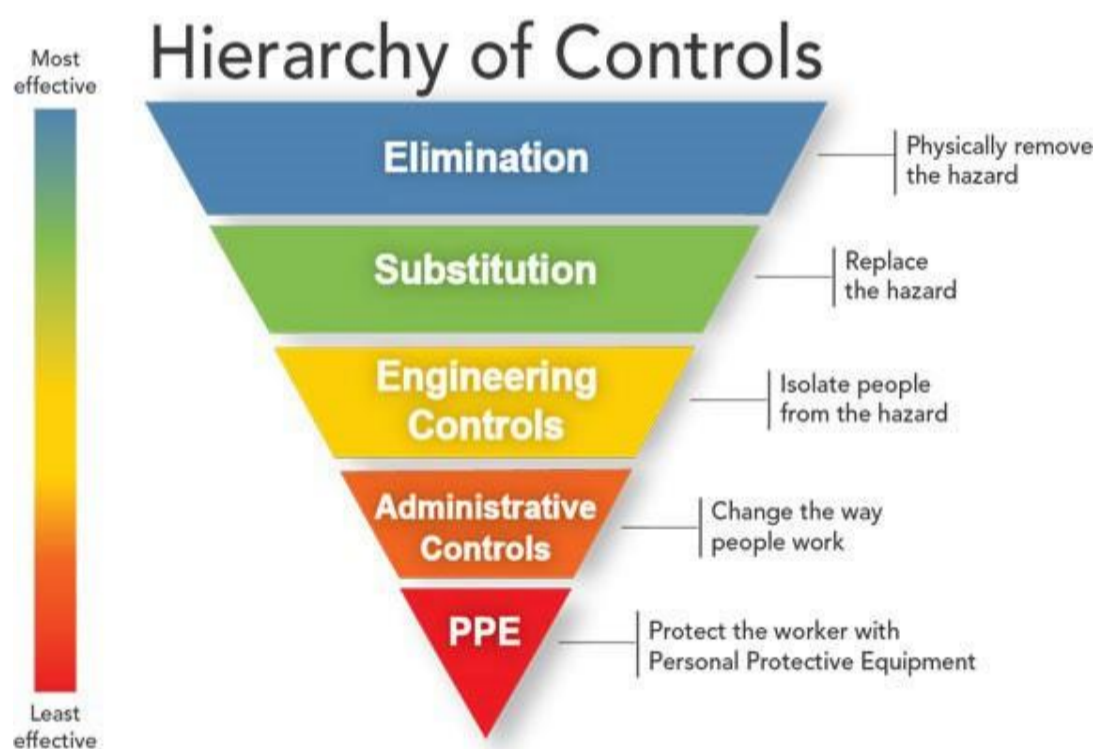


HCPs entering the room of patient with suspected or confirmed COVID-19 should use PPE including respiratory protection; i.e. N95 respirator



Persons with symptoms of suspected COVID-19 should wear facemasks; i.e. surgical masks. CDC does NOT currently recommend the general public use facemasks.

HIERARCHY OF CONTROLS – ENGINEERING CONTROLS, ADMINISTRATIVE CONTROLS AND PPE



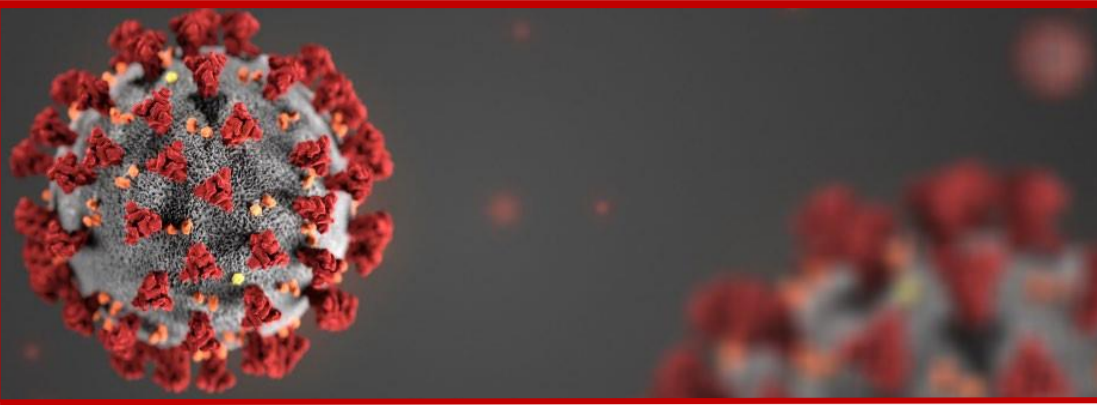
ENGINEERING CONTROLS: placing barrier between hazard and HCP

- Patients with known or suspected COVID-19 should be placed in an airborne infection isolation room (AIIR).
- Barriers such as glass/plastic windows can be an effective solution for reducing exposures among HCP to potentially infectious patients.
- Ventilation systems that provide air movement in a clean (HCP workstation or area) to contaminated (sick patient) flow direction.

Additional ADMINISTRATIVE CONTROLS to consider:

- Limit number of patients going to hospital or outpatient setting by screening patients prior to arrival
- Exclude visitors to patients with known or suspected COVID-19
- Source Control: Identify and assess patients who may be ill with or who may have been exposed to patient with COVID-19, ensuring masks worn until isolation can occur
- Cohort Patients: Group patients who are infected with the same organism
- Cohort HCPs: Assign designated team to provide care for patients with suspected or confirmed COVID-19
- Telemedicine: Remotely screen and manage patients who may be infected with COVID-19
- Train on use of N95 respirators and indications for use of N95 respirators
- Limit respirators during training; consider qualitative fit testing vs. quantitative fit testing





Indiana State Department of Health

COVID-19 Strategies for Optimizing PPE and RE-USE

- **PERSONAL PROTECTIVE EQUIPMENT AND RESPIRATORY PROTECTION**

- *Conventional Capacity Strategies:**

Surgical N95 respirators are recommended only for use by HCPO who need protection from both airborne and fluid hazards. These respirators are not need outside of healthcare settings. If surgical N95 respirators are not available, a face shield should be worn over the standard N95 respirator.

Use of alternative N95 respirators when feasible. These include other classes of filtering face piece respirators, elastomeric half-mask and full-face piece air purifying respirators, powered air purifying respirators (PAPRS) where feasible. All of these alternatives provide equivalent or higher protection than N95 respirators.

- *Contingency Capacity Strategies:**

- Use of respirators after their intended shelf life**

In times of demand and decreased supply, consideration can be made to use N95 respirators past the intended shelf life. However, the potential exists that the respirator will not perform to the requirements for which it was certified. Over time, strap and material may degrade, which can affect the quality of the fit and seal. Prior to use of N95 respirators the HCP should inspect the respirator and perform a seal check. Additionally, expired respirators may potentially no longer meet the certification requirements set by NIOSH.

- Extended use and limited reuse**

Extended Use – Wearing the same N95 for repeated close contact encounters with several different patients, without removing the respirator between patient encounters. Extended use may be implemented when multiple patients are infected with same respiratory pathogen and patients are placed together in dedicated waiting rooms or hospital wards.

Reuse – Using same N95 by one HCP for multiple encounters with different patients but removing it after each encounter not to be shared by multiple HCP workers. The N95 must be stored in between use. To maintain the integrity of the of the N95, it must be hung in designated storage area or kept in a clean, breathable container such as a paper bag between uses. It is prohibited to modify the N95 by placing any material within the respirator or over the respirator. Even with N95 respirator reuse is practiced or recommended, restrictions are in place which limit the number of times the same respirator is reused which is referred to as “limited reuse.”

- Use of Alternative to N95 Respirators**

Use of other classes of filtering face piece respirators, elastomeric half-mask and full-face piece air purifying respirators, powered air purifying respirators (PAPRS) when feasible.

Identify → Isolate → Inform



Release of Stockpiled N95 Filtering Facepiece Respirators Beyond the Manufacturer-Designated Shelf Life: Considerations for the COVID-19 Response

February 28, 2020

Some U.S. stockpiles include N95 filtering facepiece respirators (N95s) that have exceeded their manufacturer-designated shelf life. U.S. Government decision makers are considering whether these products should be released for use during the COVID-19 response. In times of respiratory protective device shortage, such as during the COVID-19 response, supplies must be managed so that protection against exposure is adequate.

Based on preliminary information gained in a study evaluating stockpiled N95s from 10 geographically dispersed facilities with a range of storage conditions by the CDC NIOSH. All N95 units evaluated in this study were manufactured between 2003 and 2013. Many have exceeded their manufacturer-designated shelf life. Testing was done in accordance with NIOSH performance standards for filtration efficiency and inhalation/exhalation resistance. Additional work to assess N95 fit testing is also included in the study, although a fit assessment is not a requirement for NIOSH approval of N95s. many models have continued to perform in accordance with NIOSH performance standards.

Accordingly, CDC/NIOSH believes the following products, despite being past their manufacturer-designated shelf life, should provide the expected level of protection to the user if the stockpile conditions have generally been in accordance with the manufacturer-recommended storage conditions and an OSHA-compliant respiratory protection program is used by employers. In alphabetical order, these models are:

- 3M 1860
- 3M 1870
- 3M 8210
- 3M 9010
- 3M 8000
- Gerson 1730
- Medline/Alpha Protech NON27501
- Moldex 1512
- Moldex 2201

Please refer to this link for Preliminary findings- NIOSH performance standards & detailed information <https://www.cdc.gov/coronavirus/2019-ncov/release-stockpiled-N95.html>

